

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars.

1. In the claims

As shown in the foregoing LIST OF CURRENT CLAIMS, the claims have been amended to more clearly point out the subject matter for which protection is sought.

Claim 1 is amended to clarify that the first lower lacquer layer is based on a water-based dispersion of aliphatic polyester polyurethanes or styrene-acrylic polyurethanes, without a radiation-curing lacquer component.

It is respectfully submitted that no new matter is added, since support for the amendments may be found, for example, at least in paragraphs [0007], [0008], [0010], [0011], [0013], [0015], [0019], [0039], [0040], and [0048] of the accompanying description in the specification as originally filed.

In particular, in paragraph [0007], it is discussed that conventional water-based lacquers are suitable as protective layers “only if a second component in the form of a crosslinking agent is added.” Paragraph [0011] of the specification goes on to discuss that radiation-curing lacquers “have the disadvantage that residual monomers and free photoinitiators as a rule remain as very reactive components in the depressions and pores of the substrate after radiation curing” in dependence upon a number of factors.

In paragraph [0013] it is further discussed how such reactive components of a radiation curing lacquer layer would be deposited in the depressions and pores of the substrate, without the use of the inventive lower lacquer layer.

Further, in paragraphs [0015] and [0019], the use of an upper lacquer layer is discussed. In particular, the upper lacquer layer may be a physically drying lacquer layer (whereupon during drying, the water component is physically removed), radiation-curing lacquers (curing by irradiation, and having the above-noted disadvantages when used as a

lower lacquer layer), and hybrid lacquers (containing both physically drying components and radiation-curing components).

As discussed in detail in the specification as originally filed, the radiation-curing lacquers and hybrid lacquers are only used as the upper lacquer layer, which is applied over the lower lacquer layer, in order to avoid the above-noted disadvantages with regard to radiation-curing lacquers leaving reactive components in the depressions and pores of the substrate after radiation curing.

According to paragraph [0010] of the disclosure, the physically drying lower lacquer layer is applied to the substrate to close the pores of the substrate, so that the radiation-curing lacquer components of the upper layer do not leave reactive components in the depressions and pores of the substrate after radiation curing.

Therefore, a review of the specification as originally filed makes clear that the disclosed physically drying lower lacquer layer may not contain radiation-curing lacquer components, since such radiation-curing lacquer components would leave reactive components in the depressions and pores of the substrate after radiation curing, which is in contrast to the disclosed physically drying lower lacquer, which is provided to prevent this problem associated with conventional water-based lacquers having a radiation-curing lacquer component.

Therefore, it is respectfully submitted that no new matter is added by way of the amendment to claim 1.

Claims 5-9 and 16 remain canceled.

Claims 2-4, 10-15, 17-26 are left unchanged.

Claim 27 is amended to correspond to amended claim 1, and claim 28 is amended and claim 34 is canceled for consistency with amended claim 27. For the reasons discussed above, it is respectfully submitted that no new matter is added by way of the amendment to claim 27.

Claims 27-33 and 35-47 remain withdrawn.

Entry of the LIST OF CURRENT CLAIMS is respectfully requested in the next Office communication.

2. Unavailability of U.S. publication no. 2006/0058445 (*Leuninger et al.*) and WIPO publication WO 03/099949 A1 (*Leuninger et al.*) as prior art under 35 U.S.C. § 102(e) (and subsequently, 35 U.S.C. § 103(a))

As noted above, English language translations and accompanying certifications of accuracy for priority documents DE 103 05 614.9, filed February 11, 2003 and DE 103 27 083.3, filed June 13, 2003 are concurrently filed herewith.

The specific features of the two layers recited in amended claim 1 are fully supported at least, for example, in paragraphs [0012], [0014], [0015], [0018], and [0019] of the priority document DE 103 27 083.3, filed June 13, 2003. Thus, the effective filing date for the features of amended claim 1 is June 13, 2003.

Turning to the WIPO publication WO 03/099949 A1 (*Leuninger et al.*), this publication was published in the German language on December 4, 2003 (after the June 13, 2003 filing date of the priority document DE 103 27 083.3), and is thus unavailable as prior art under 35 U.S.C. §§ 102(a) and 102(b). Further, since the WIPO publication WO 03/099949 A1 (*Leuninger et al.*) was based upon an international application that was published in the German language, the filing date of May 21, 2003 of the international application cannot be used for a 35 U.S.C. § 102(e) date under 35 U.S.C. § 103(a) (see in particular MPEP § 2136.03). Thus, the WIPO publication WO 03/099949 A1 (*Leuninger et al.*) does not qualify as prior art under 35 U.S.C. § 102(e) and 35 U.S.C. § 103(a).

Similarly, the U.S. publication no. 2006/0058445 (*Leuninger et al.*) was filed in the U.S. on November 12, 2004, published on March 16, 2006, and claims priority to the international application that forms the basis for the WIPO publication WO 03/099949 A1 (*Leuninger et al.*), and which was filed on May 21, 2003. However, since the WIPO publication WO 03/099949 A1 (*Leuninger et al.*) was published in the German language,

the filing date of May 21, 2003 of the international application cannot be used for a 35 U.S.C. §102(e) date under 35 U.S.C. § 103(a) (see in particular MPEP § 2136.03). Thus, the filing date that must be used for the U.S. publication no. 2006/0058445 (*Leuninger et al.*) is the U.S. filing date of November 12, 2004, and therefore, the U.S. publication no. 2006/0058445 (*Leuninger et al.*) does not qualify as prior art under 35 U.S.C. §102(e) and 35 U.S.C. § 103(a).

Therefore, any rejection under 35 U.S.C. § 103(a) that utilizes either of the *Leuninger* publications cannot be maintained.

3. Rejection of claims 1, 3, 4, 11, 13-17, 21, 24, and 26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,820,971 (*Kaule et al.*) in view of U.S. patent no. 6,710,120 (*Gertzmann et al.*)

Reconsideration of this rejection is respectfully requested, in view of the amendment to claim 1, on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to amended claim 1, from which claims 3, 4, 11, 13-17, 21, 24, and 26 depend.

By way of review, amended claim 1 recites at least in part, a protective layer having at least two lacquer layers, a first lower lacquer layer based on a water-based dispersion of aliphatic polyester polyurethanes or styrene-acrylic polyurethanes, without a radiation-curing lacquer component; and a second upper lacquer layer formed as any one of the following layers a), b), or c):

- a) a radiation-curing UV-crosslinked lacquer layer;
- b) a physically drying water-based dispersion lacquer layer based on styrene-acrylic without a polyurethane component;
- c) a hybrid lacquer layer containing both physically drying components and a radiation-curing lacquer component, and based on aqueous dispersions on the basis of aliphatic urethane acrylates and acrylates with photoinitiators.

It is noted that each of the possible compositions used for the second lacquer layer is different from the recited possible compositions used for the first lacquer layer.

The Office action rejects claim 1 as being obvious in view of the proposed combination of the *Kaule* and *Gertzmann* patents.

As acknowledged on pages 3 and 4 of the Office action, each of the *Kaule* and *Gertzmann* patents disclose UV-curable (radiation curable) coating compositions.

In particular, and as discussed in detail in previously submitted responses, the terms “reaction lacquer” and “reaction adhesive” are defined in the *Kaule* patent as lacquers or adhesives that cure, i.e. polymerize or cross-link, irreversibly under specific physical (i.e. radiation) or chemical activation (col. 3, lines 53-58).

Further, as acknowledged on page 3 of the Office action, the *Kaule* patent specifically discloses that the lower reaction layer 4 and the upper reaction layer 2 are largely homogenous chemically, in order to provide a very firm compound in areas where the metal layer contains pores or microcracks.

The Office action also acknowledges on page 3 that the *Kaule* patent does not disclose the specific compositions or properties of the recited lower and upper lacquer layers.

The Office action turns to the *Gertzmann* patent in an attempt to cure the deficiencies of the *Kaule* patent. However, as discussed above, the Office action acknowledges on page 4 that the *Gertzmann* patent discloses compositions containing UV-curable (radiation-curable) components.

Further, even if a person having ordinary skill in the art were to look to the *Gertzmann* patent to substitute coating compositions for the layers of the *Kaule* patent, since the *Kaule* patent specifically discloses that the lower reaction layer 4 and the upper reaction layer 2 are largely homogenous chemically, the skilled artisan would utilize the same composition for each of the lower reaction layer 4 and the upper reaction layer 2,

which is in contrast to amended claim 1, in which different compositions are used for the lower and upper lacquer layers.

Accordingly, for at least these reasons, it is respectfully submitted that the proposed combination of the *Kaule* and *Gertzmann* patents fails to establish a *prima facie* case of obviousness with respect to amended claim 1, and withdrawal of this rejection is respectfully requested.

4. Rejection of claims 1, 3, 4, 11, 13-17, 21, 24, and 26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,820,971 (*Kaule et al.*) in view of WIPO publication WO 03/099949 A1 (*Leuninger et al.*) (and English language translation U.S. publication no. 2006/0058445 (*Leuninger et al.*))

For the reasons discussed above in detail, neither of the *Leuninger* publications is available as a prior art reference, and therefore, withdrawal of this rejection is respectfully requested.

5. Rejection of claim 2 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,820,971 (*Kaule et al.*) in view of U.S. patent no. 6,710,120 (*Gertzmann et al.*) or in view of WIPO publication WO 03/099949 A1 (*Leuninger et al.*) (and English language translation U.S. publication no. 2006/0058445 (*Leuninger et al.*)) and further in view of U.S. patent no. 5,928,471 (*Howland et al.*)

Reconsideration of this rejection is respectfully requested, on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to amended claim 1, from which claim 2 depends.

In particular, with respect to the proposed combination of the *Kaule* patent, the *Leuninger* publications, and the *Howland* patent, for the reasons discussed above, the *Leuninger* publications are unavailable as prior art references, and thus, withdrawal of this rejection is respectfully requested.

With respect to the proposed combination of the *Kaule*, *Gertzmann*, and *Howland* patents, it is respectfully submitted that the *Howland* patent fails to provide for the shortcomings of the proposed combination of the *Kaule* and *Gertzmann* patents, as discussed above in detail with respect to amended claim 1, from which claim 2 depends.

Accordingly, withdrawal of this rejection is respectfully requested.

6. Rejection of claims 12, 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,820,971 (*Kaule et al.*) in view of U.S. patent no. 6,710,120 (*Gertzmann et al.*) or in view of WIPO publication WO 03/099949 A1 (*Leuninger et al.*) (and English language translation U.S. publication no. 2006/0058445 (*Leuninger et al.*) and further in view of U.S. patent no. 6,715,750 (*Gerlier et al.*)

Reconsideration of this rejection is respectfully requested, on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to amended claim 1, from which claims 12, 19, and 20 depend.

In particular, with respect to the proposed combination of the *Kaule* patent, the *Leuninger* publications, and the *Gerlier* patent, for the reasons discussed above, the *Leuninger* publications are unavailable as prior art references, and thus, withdrawal of this rejection is respectfully requested.

With respect to the proposed combination of the *Kaule*, *Gertzmann*, and *Gerlier* patents, it is respectfully submitted that the *Gerlier* patent fails to provide for the shortcomings of the proposed combination of the *Kaule* and *Gertzmann* patents, as discussed above in detail with respect to amended claim 1, from which claims 12, 19, and 20 depend.

Accordingly, withdrawal of this rejection is respectfully requested.

7. Rejection of claim 18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,820,971 (*Kaule et al.*) in view of U.S. patent no. 6,710,120 (*Gertzmann et al.*) or in view of WIPO publication WO 03/099949 A1 (*Leuninger et al.*) (and English language translation U.S. publication no. 2006/0058445 (*Leuninger et al.*) and further in view of U.S. patent no. 6,905,711 (*Tullo et al.*)

Reconsideration of this rejection is respectfully requested, on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to amended claim 1, from which claim 18 depends.

In particular, with respect to the proposed combination of the *Kaule* patent, the *Leuninger* publications, and the *Tullo* patent, for the reasons discussed above, the *Leuninger* publications are unavailable as prior art references, and thus, withdrawal of this rejection is respectfully requested.

With respect to the proposed combination of the *Kaule*, *Gertzmann*, and *Tullo* patents, it is respectfully submitted that the *Tullo* patent fails to provide for the shortcomings of the proposed combination of the *Kaule* and *Gertzmann* patents, as discussed above in detail with respect to amended claim 1, from which claim 18 depends.

Accordingly, withdrawal of this rejection is respectfully requested.

8. Rejection of claim 25 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,820,971 (*Kaule et al.*) in view of U.S. patent no. 6,710,120 (*Gertzmann et al.*) or in view of WIPO publication WO 03/099949 A1 (*Leuninger et al.*) (and English language translation U.S. publication no. 2006/0058445 (*Leuninger et al.*) and further in view of U.S. patent no. 4,462,866 (*Tooth et al.*)

Reconsideration of this rejection is respectfully requested, on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to amended claim 1, from which claim 25 depends.



In particular, with respect to the proposed combination of the *Kaule* patent, the *Leuninger* publications, and the *Tooth* patent, for the reasons discussed above, the *Leuninger* publications are unavailable as prior art references, and thus, withdrawal of this rejection is respectfully requested.

With respect to the proposed combination of the *Kaule*, *Gertzmann*, and *Tooth* patents, it is respectfully submitted that the *Tooth* patent fails to provide for the shortcomings of the proposed combination of the *Kaule* and *Gertzmann* patents, as discussed above in detail with respect to amended claim 1, from which claim 25 depends.

Accordingly, withdrawal of this rejection is respectfully requested.

9. Rejection of claims 22 and 23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,820,971 (*Kaule et al.*) in view of U.S. patent no. 6,710,120 (*Gertzmann et al.*) or in view of WIPO publication WO 03/099949 A1 (*Leuninger et al.*) (and English language translation U.S. publication no. 2006/0058445 (*Leuninger et al.*) and further in view of U.S. patent no. 6,059,914 (*Suss*) and even further in view of U.S. patent no. 4,462,866 (*Tooth et al.*)

Reconsideration of this rejection is respectfully requested, on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to amended claim 1, from which claims 22 and 23 depend.

In particular, with respect to the proposed combination of the *Kaule* patent, the *Leuninger* publications, and the *Suss* and *Tooth* patents, for the reasons discussed above, the *Leuninger* publications are unavailable a prior art references, and thus, withdrawal of this rejection is respectfully requested.

With respect to the proposed combination of the *Kaule*, *Gertzmann*, *Suss*, and *Tooth* patents, it is respectfully submitted that the *Suss* and *Tooth* patents fail to provide for the shortcomings of the proposed combination of the *Kaule* and *Gertzmann* patents, as discussed above in detail with respect to amended claim 1, from which claims 22 and 23 depend.

Accordingly, withdrawal of this rejection is respectfully requested.

10. Allowable subject matter

The applicants gratefully acknowledge the indication of allowable subject matter in claim 10. However, in view of the above discussion, it is respectfully submitted that independent claim 1 is patentable, and the features of claim 10 have not been rewritten in independent form at this time.

11. Rejoinder of withdrawn claims

In view of the amendment to withdrawn process claim 27, from which the remaining withdrawn process claims depend, to correspond to the product of independent claim 1, rejoinder of the withdrawn process claims is respectfully requested upon the allowance of independent claim 1, in accordance with MPEP § 821.04.

12. Conclusion

As a result of the amendment to the claims, and further in view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that every pending claim in the present application be allowed and the application be passed to issue.

Please charge any additional fees required or credit any overpayments in connection with this paper to Deposit Account No. 02-0200.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicants' attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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